EPA Comments on Draft Technical Memorandum on Proposed Boundary of the Removal Action (November 19, 2004)

Slip 4 Early Action Area, Lower Duwamish Waterway Superfund Site

General Comments

1. Editorial. Use consistent notations for concentration units throughout the text, tables, and figures.

Specific Comments

2. Page iv, List of Acronyms. Delete "HAET." Add "dw," "2LAET," and "MHW."

3. Page 1, Introduction. The introduction should clarify that one purpose of this memorandum is to present information to facilitate discussions on the proposed boundary for the early action *prior to* the EE/CA. The EE/CA will contain much more detailed information than is presented in this memorandum. The introduction should also clarify that the proposed boundary in the EE/CA will be subject to a formal pubic comment period, and that the final boundary will be selected by EPA in a formal decision document (the Action Memorandum).

4. Page 1, Section 1. In the project background, or perhaps in Section 2, clarify that the EE/CA will include a streamlined risk evaluation for human health and ecological risks.

5. Page 1, Section 1.1, 2nd para. Add a final sentence: As compared to a remedial RI/FS, early actions are generally defined as short-term, quickly implemented actions designed to eliminate or minimize significant risk from Superfund sites.

6. Page 2, 3rd para. The removal action boundary will be finalized in the Action Memorandum, which is EPA's primary decision document for a removal response. This comment also applies to the first paragraph of Section 3.

   Revise text: "Areas in the LDW outside of the boundary will continue to be evaluated by the LDWG ~~and~~ EPA, and Ecology under the LDW RI/FS." After this sentence, add text clarifying that the LDW RI/FS will include an ecological and human health risk assessment to evaluate potential risks to human health and the environment posed by the LDW site.

7. Page 3, Footnote 2. The correct citation is SEA (2004).

8. Page 3, Section 2. In the introduction, provide a simple rationale for using the nature and extent of sediment data and the SMS criteria to characterize the proposed boundary for the early action area. Acknowledge that the SQS and CSL values can be used to assess some (but not all) ecological risks, and that these values do not address human health risks. However, the SQS and CSL values can be useful in identifying contaminated sediments that can be addressed by an early action.

   Section 2 should include a citation to the Ecology paper that discusses 0.2% as the minimum TOC concentration for using organic carbon normalized concentrations to compare to the SMS. This text may be inserted after the second paragraph on page 3.

9. Page 3, 2nd para. Revise text: "...adverse biological effects or toxicity; and. biological testing may be used ~~is required~~ to confirm adverse effects." Revise text as appropriate in response to Specific Comment 3 from Exponent.

10. Page 3, 3rd para, 1st sentence. Revise text: "...data were collected from 41 locations in Slip 4...".

11. Page 3, 3rd para. Based on my review of Araki (2004), it appears that all stations labelled EIT or EST are potentially biased high, except for the following: EIT-067, EST-171, EST-172, EST-173, and EST-175. Please confirm this evaluation and revise the text accordingly. This comment also applies to the citation on page 8. Also, provide a footnote to the Araki 2004 citation, with the following direct quote:

    "Results that are less than 100 Φg/kg are considered estimates and should be "J" qualified because they may have a large potential negative bias (i.e., PCB concentrations may be underestimated).

    Results between 100 and 600 Φg/kg are considered usable without qualification. However, there is still a potential positive bias which may be associated with these results and cannot be confirmed.

    Results that are greater than 600 Φg/kg are considered estimates and should be "J" qualified because they may have a potential positive bias (i.e., PCB concentrations may be overestimated)."

12. Page 4, 1st para. Revise text: BEHP exceeded the SQS and the CSL.

13. Page 4, 2nd para, 1st sentence. Clarify that PCBs and mercury were analyzed in samples collected at 29 locations (plus 2 field replicates), one intertidal composite location, and 6 bank sample locations.

14. Page 4, 2nd para, 2nd sentence. Revise text: "~~Semivolatile organic compounds (SVOCs)~~ The other SMS analytes were analyzed in a subset of samples...". This revision is

necessary because SMS metals were also analyzed at four stations. In the third sentence, revise text to clarify that the rationale for selection of samples for SMS analysis is provided in Integral (2004e).

15. Page 4, 3rd para. Revise text: "~~During Tier 2 analyses or archived samples~~ For the subset of 2004 samples that were analyzed for other SMS analytes, ...". In this paragraph, clarify that all SMS analytes were analyzed at intertidal composite station IC01.

16. Page 4, 4th para. In the second to the last sentence, add a citation to Figure 4.

17. Page 4, footnote 3. This footnote should also refer the reader to Table 2 of this memorandum.

18. Page 5, Section 2.2.1, 1st para. In the first sentence, a citation to SEA 2004 should also be provided. In the second sentence, the reference should be to Figure 5-14 of SEA (2004). In the fifth sentence, clarify that 'at both locations' is referring to depths greater than 4 ft (CSL exceedances do occur at other stations for other chemicals at the 0-2 ft interval).

19. Page 6, Section 2.4. Revise text: These decreasing PCB concentrations over time may be due to the result of reduced PCB input due to completed source control actions, the result of natural recovery (e.g., sedimentation, dispersion, dilution, bioturbation), or other reasons.

20. Page 7, Section 3. This section should include information acknowledging that the EE/CA will contain much more information about the Slip 4 Early Action Area, including a streamlined human health and ecological risk assessment. Also, as in other sections, clarify that areas outside of the proposed boundary will continue to be evaluated as part of the LDW RI/FS, which includes a baseline human health and ecological risk assessment.

21. Page 7, Section 3.1. Consider incorporating comments on the rationale that were provided in EPA's milestone briefing presentation to stakeholders.

    Bullet 1 - Delete the third sentence.

    After Bullet 1, insert a new bullet clarifying that the overall approach compared surface sediment chemical concentrations to Washington State SMS (SQS and CSL).

    Clarify that historical data (SEA 2004; Table 2 of this memorandum) were used to identify PCBs as the primary contaminant of concern (CoC), and provide a reference to Table 5-6 of SEA 2004. It seems relevant that based on results from 22 historical stations, PCBs and BEHP were the only chemicals that had exceedances of the CSL at more than one station. Subsequent 2004 analyses focused on PCBs, but full suite SMS

were also performed on a subset of samples. It seems relevant that the 2004 data showed that in the area outside the proposed boundary there were no CSL exceedances and only two slight SQS exceedances at a single station (refer to Figure 4). This confirms that PCBs are the CoC for Slip 4.

Provide a more general description that the shoreline portion of the boundary is set at toe of bank, and the subtidal portion of the boundary incorporates the elevated PCB concentrations in the bank and intertidal composite sample (SE corner) and the NW corner abuts the previously dredged area near Crowley.

Bullet 3 - Given the previous discussion, this bullet should reference SQS values for PCBs.

Bullet 4 - The first sentence should reference PCB concentrations.

Clarify that areas outside the proposed boundary will continue to be evaluated by the LDWG, EPA, and Ecology pursuant to the LDW RI/FS.

22. Page 8, Section 3.2, 1st para. The third sentence should also reference Figure 4.

23. Page 8, Section 3.2, 2nd para. See earlier comment about Araki 2004. Revise text: Data for Station SL4-11 were reported by Landau.

24. Page 9.

Bullet 1. Clarify that the entire under pier area is steeply sloped rip rap next to a vertical bulkhead.

Bullet 2. Please confirm with the source control work group whether the term 'emergency overflow outfall' is still the correct term.

Bullet 3 and 4. Revise sentence as follows: The bulkhead and associated fill material above the boundary will be evaluated for potential source control by Ecology.

25. Page 10, New Section. Consider adding a new Section 3.5 to clarify issues regarding the "outside sediments." Areas in the LDW outside of the boundary will continue to be evaluated by the LDWG, EPA, and Ecology under the LDW RI/FS. Clarify that the LDW RI/FS will include an ecological and human health risk assessment to evaluate potential risks to human health and the environment posed by the LDW site. Also, the LDW RI/FS will include a sediment fate and transport study.

26. Figures 2, 3, and 5.

The legends should be modified to show that the green coloring reflects less than 12

mg/kg OC (not *less than or equal to*), and the yellow coloring reflects SQS to CSL (i.e., 12-65 mg/kg OC rather than *greater than* 12-65 mg/kg OC).

Insert a space between "kg" and "OC" in the definition for the yellow circle.

Insert "Navigation" before "Channel".

For all figures that show historical data, please provide a list of the station designations and the study (e.g., R stations = Boeing 1997 study).

27. Figures 3 and 5. Please carefully check the use of data qualifiers in the total PCB values reported on these figures, *and also in the Cruise and Data Report.* Specifically, although Table I-3 of the Cruise and Data Report indicates that SC01A has a sum of 35,000J ppb, the individual Aroclors do not have the "J" qualifier, so the reported qualifier appears in error. Please provide any corrections to the Cruise and Data Report to EPA as hard copy page replacements.

28. Figure 4. Based on Figure 8 of the Cruise and Data Report, the station labels for SG06 and SG06FR have been incorrectly reversed. Also, sample location IC01 should be labelled (full SMS suite was analyzed) and assigned color code green (no SQS exceedances other than PCBs).

Replace Legend and Title "Detected Chemical Exceedances in Non-PCB Surface Samples" with "Exceedances of SQS and CSL for Detected Chemicals other than PCBs in Surface Sediment and Bank Samples." Replace "Non-PCB Surface Sample Analysis" with "Chemicals Analyzed in Surface Sediment and Bank Samples."

Add "dw" after "420 ug/kg."

Correct spelling of bis(2-ethylhexyl)phthalate in three instances.

For SG06 and SG06FR the BEHP values are compared to CSL ~~SQS~~ = 78 mg/kg OC.

Figure 4 should also be revised, as relevant, in response to the previous comment.

29. Figure 5. Correct figure title, "...2004 PCBs Concentrations...".

The color of the "x" indicating "2004 Intertidal Composite Subsample" is different in the legend than on the map.

Replace "historic" with "historical" in two instances in the legend and in the label "Historic Core Data" on the map.)

30. Figure 6. Insert "Navigation" before "Channel."

31. Table 1. Delete "/MCUL" from last column heading.

32. Table 2.

Given that the LAET and 2LAET values were only used for comparison with one station, please re-label the two right-hand columns to "SQS EF" and "CSL EF". As written, Footnote b clarifies the station for which the LAET and 2LAET (not the HAET) were used.

In Footnote a, clarify that "- - - = Concentration does not exceed CSL or 2LAET".

In Footnote b, clarify that concentrations were also compared to the 2LAET (provide the 2LAET concentration of 1,000 ug/kg dw total PCBs).

On page 2 of the table, the concentration column for EST164 through EST172 inaccurately refers to concentration units as mg/kg OC-***dry***.

Add a third footnote defining the term "EF" as this is not discussed in the text. This comment also applies to Tables 3 and 4.

33. Table 3.

For SG06 and SG06FR the concentrations for BEHP are marked as undetected values; however, the Cruise and Data Report (e.g., Figure 8) and Figure 3 of this memorandum show BEHP values as detected concentrations.

Add a note indicating that this information is also depicted in Figure 8 of the Cruise and Data Report.

Delete extra units at top of concentration column.

34. Table 4.

Add a note indicating that this information is also depicted in Figure 9 of the Cruise and Data Report.

In Footnote a, clarify that "- - - = Concentration does not exceed CSL or 2LAET".

Given that the LAET values were only used for comparison with one station, please re-label the two right-hand columns to "SQS EF" and "CSL EF". As written, Footnote b clarifies the station for which the LAET was used.
In footnote b, insert space between 11 and ug/kg.

35. Appendix A. The southeast corner of the proposed boundary does not appear to be accurately positioned with respect to the bank. Also, the most northern section of the "Gravel Path" marked by two parallel lines on the Boeing property does not appear accurate, as the path veers east at this location.